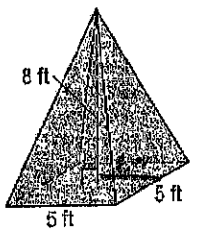
NAME Key DATE _____ PERIOD ____

13-2 Skills Practice

Volumes of Pyramids and Cones

Find the ~~volume~~ P, B, LA, TA, V of each pyramid or cone. Round to the nearest tenth if necessary.

1.



$8^2+2.5^2=\ell^2$

$8.4=\ell$

$P = 20$ ft

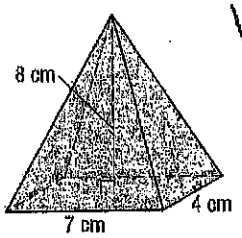
$B = 25$ ft^2

$LA = \frac{1}{2}20 \cdot 8.4 = 84$ ft^2

$SA = 84+25 = 109$ ft^2

$V = \frac{1}{3}25 \cdot 8 = 66\frac{2}{3}$ ft^3

2.



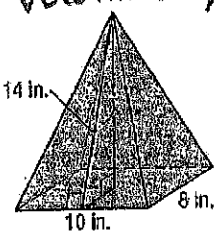
Volume only

$B = 28$ cm^2

$V = \frac{1}{3}28 \cdot 8$

$74\frac{2}{3}$ cm^3

3. Volume only



$14^2 = 4^2+h^2$

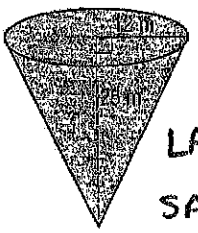
$13.4 = h$

$B = 80$ in^2

$V = \frac{1}{3}80 \cdot 13.4$

357.8 in^3

4.



$P = 24\pi$ m

$B = 144\pi$ m^2

$12^2+25^2=\ell^2$

$27.7=\ell$

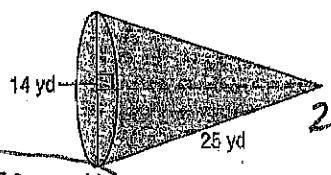
$LA = \frac{1}{2}24\pi \cdot 27.7 = 1045.4$ m^2

$SA = 1045.4+(144\pi) \approx 1497.8$ m^2

$V = \frac{1}{3}144\pi \cdot 25 = 1200\pi$ m^3

3769.9

5.



$P = 14\pi$ yd

$B = 49\pi$ yd^2

$LA = \frac{1}{2}14\pi \cdot 25 = 175\pi$ yd^2

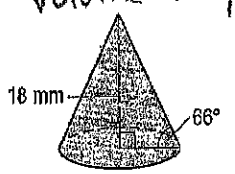
$SA = 175\pi+49\pi = 224\pi$ yd^2

$V = \frac{1}{3}49\pi \cdot 24 = 392\pi$ yd^3

$25^2=7^2+h^2$

$24=h$

6. Volume only (Use tan)



$\tan 66 = \frac{18}{r}$

$r \approx 8.0$

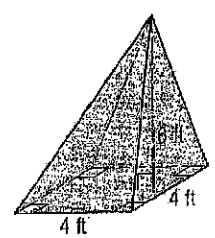
$B = 201.8$ mm^2

$V = \frac{1}{3}201.8 \cdot 18 = 1210.6$ mm^3

I used stored answers + rounded at end.

Find the volume of each oblique pyramid or cone. Round to the nearest tenth if necessary.

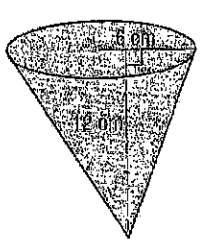
7.



$V = \frac{1}{3}16 \cdot 6$

32 ft^3

8.



$B = 36\pi$

$V = \frac{1}{3}36\pi \cdot 12$

$144\pi \approx 452.4$ cm^3

Lesson 13-2

Remember the radius = 2 x (apothem)!

1.

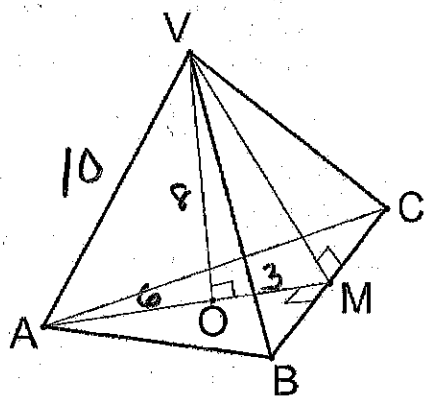
AO = 6

OM = 3

h = 8 $10^2 = 6^2 + VO^2$

l = $\sqrt{73} \approx 8.5$ $8^2 + 3^2 = VM^2$

Given:
AM = 9
VA = 10



2.

BM = 3

OM = $\sqrt{3}$

OC = $2\sqrt{3}$

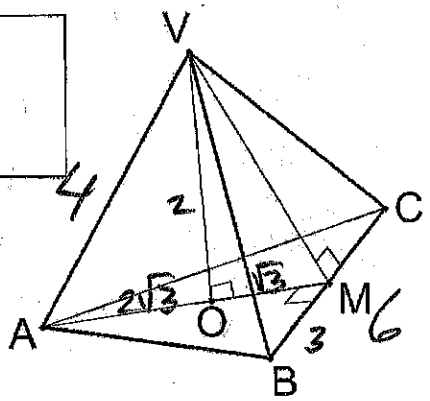
OA = $2\sqrt{3}$

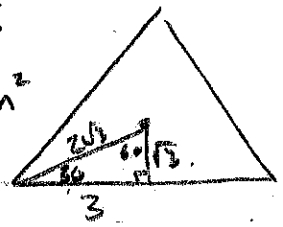
AM = $3\sqrt{3}$ $\sqrt{3} + 2\sqrt{3}$

h = 2 $4^2 = (2\sqrt{3})^2 + h^2$

l = $\sqrt{7}$ $2^2 + \sqrt{3}^2$

Given:
BC = 6
VA = 4





3.

OM = 3 $5^2 = 4^2 + l^2$

OA = 6

BM = $3\sqrt{3}$

BC = $6\sqrt{3}$

p = $18\sqrt{3}$

B = $27\sqrt{3}$ $\frac{(6\sqrt{3})\sqrt{5}}{4}$

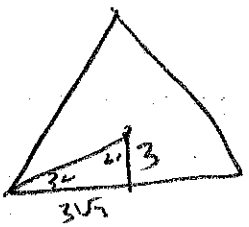
LA = $45\sqrt{3}$

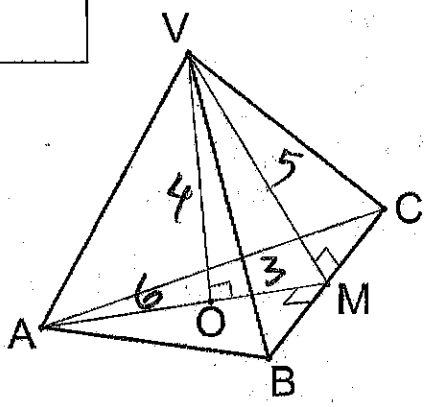
SA = $72\sqrt{3}$

V = $36\sqrt{3}$ $\frac{1}{3}$ $27\sqrt{3} \cdot 4$

$\frac{1}{2}$ $18\sqrt{3}$ 5

Given:
h = 4
l = 5

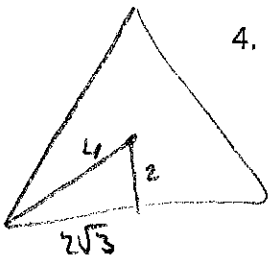




Added to 13-2 Skills Practice worksheet

Mrs. Hayden

4.



OA = 4

OM = 2

l = $\sqrt{13}$ 3^2+2^2

MC = $2\sqrt{3}$

BC = $4\sqrt{3}$

p = $12\sqrt{3}$ u

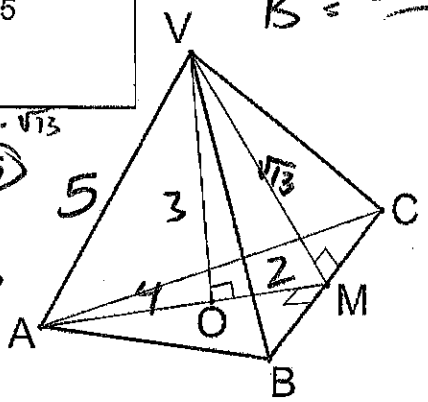
B = $12\sqrt{3}$ u^2

LA = $6\sqrt{39}$ $\frac{1}{2}$ $12\sqrt{3}\cdot\sqrt{13}$ (37.5)

TA = 58.3 u^2

V = $12\sqrt{3}$ u^3 $\frac{1}{3}$ $12\sqrt{3}\cdot 3$

Given:
VA = 5
h = 3



$B = \frac{(4\sqrt{3})^2\sqrt{3}}{4}$

5.

VC = 10

BC = 12

MC = 6

$10^2 = 6^2 + l^2$

l = 8

OM = $2\sqrt{3}$

$8^2 = (2\sqrt{3})^2 + h^2$

h = $2\sqrt{13}$

$\sqrt{52}$

p = 36 u

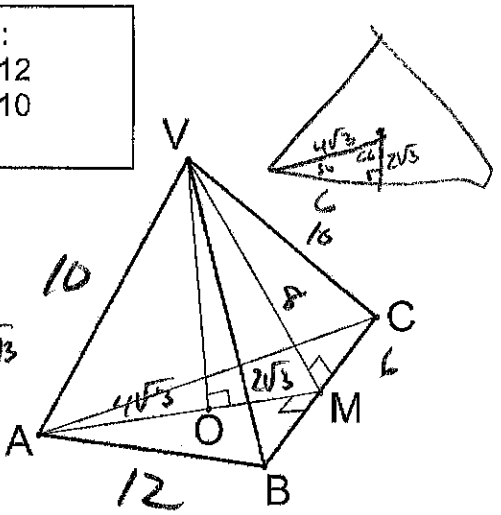
B = $36\sqrt{3}$ u^2 $\frac{12\sqrt{3}}{4}$

LA = 144 u^2 $\frac{1}{2}$ 36 · 8

TA = 206.4 u^2

V = 149.9 u^3 $\frac{1}{3}$ $36\sqrt{3}\cdot 2\sqrt{13}$

Given:
AB = 12
VA = 10



6.

BM = 3

OM = $\sqrt{3}$

OA = $2\sqrt{3}$

VA = 6

h = $2\sqrt{6}$ $6^2 = (2\sqrt{3})^2 + h^2$

TA = $36\sqrt{3}$ u^2 4 x B

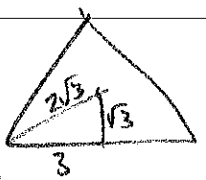
V = $18\sqrt{2}$ $\frac{1}{3}$ $9\sqrt{3}\cdot 2\sqrt{6}$

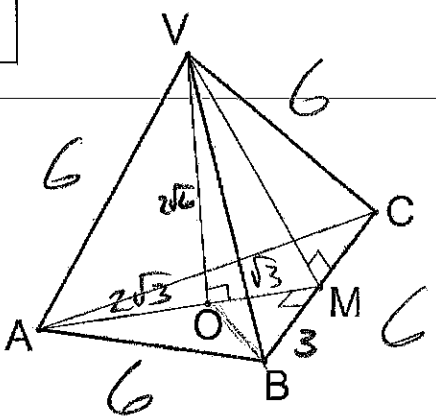
$6\sqrt{18}$

$3\sqrt{2}$

$18\sqrt{2}$

Given:
All edges are 6





$l^2 = \sqrt{3}^2 + (2\sqrt{6})^2$

3 + 24

$\sqrt{27}$